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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,380	11/25/2003	Thomas R. Boussie	41633-193011	4286

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VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP  
P.O. BOX 34385  
WASHINGTON, DC 20043-9998

EXAMINER
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LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/720,380

Applicant(s)

BOUSSIE ET AL.

Examiner

Caixia Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-75 is/are pending in the application.
- 4a) Of the above claim(s) 34-52 and 75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-33 and 53-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 34-52 and 75 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/25/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Applicants is reminded to provide a complete list of claims including the withdrawn claims to the Office.

#### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, Claims 31-33 and 53-71 in the reply filed on December 20, 2004 is acknowledged. The newly added claims 72-74 drawn to a polymerization process are joined with the elected Group I and the newly added Claim 75 drawn to the nonelected Group II and, thus, is withdrawn from further considerations. Due to the addition of claims 72-74, which extend the catalyst composition to any catalyst comprising Hf or Zr, therefore, an election of catalyst species is deemed to be necessary to relieve the undue burden of search.
2. This application contains claims directed to the following patentably distinct species of the claimed invention: various catalyst composition species.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 72-74 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

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Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

3. During a telephone conversation with Mr. Timothy Porter on January 11, 2005 a provisional election was made with traverse to prosecute the invention of Group I wherein the elected species is defined by Formula C1 of Examples 1-4, claims 53 and 72-74. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-33, 54-71 and 75 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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5. The search results indicated the elected species is novel, thus, the search is extended to the rest of the species.

### ***Claim Objections***

6. Claims 31-33 and 53-71 are objected to because of the following informalities: In claims 31, 53, and 54, the vertical bars in the front of the formula structures should be deleted. Appropriate correction is required.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 31-33 and 53-71 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,706,829. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter of claims 1-17 of U.S. Patent No. 6,706,829 overlaps with the subject matter of the instant claims.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 72 and 73 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Okumura et al. (US 6,121,182).

The instant claims are directed to a isotactic polypropylene solution polymerization process in the presence of a catalyst comprises Hf or Zr, wherein the tacticity index value of the polymer does not vary by more than 0.1 and the meting temperature does not vary by more than 10°C when the polymerization temperature changing from less than 90°C to more than 100°C.

Okumura teaches the solution polymerization for the preparation of isotactic polypropylene in the presence of a metallocene catalyst can be conducted at temperature from 0°C to 300 °C (col. 22, lines 20-23). Okumura's working examples such as Examples 6-9 teach the polymerization processes for the preparation of isotactic polypropylenes in the presence of zirconocene 1 catalyst at temperatures of

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30°C or 50 °C have weight average molecular weights of more than 120,000 (Tables 1 and 2 of cols 37-38).

Although the prior art examples do not disclose all the claimed limitations such as variations of tacticity index value the meting temperature when polymerization temperatures change from less than 90°C to more than 100°C, the polymers disclosed in Okumura's working examples such as Examples 6-9 prepared at the temperatures of 30 °C or 50 °C show little changes in both  $T_m$  and mmmm: the changes in  $T_m$  is about 1°C and the changes of tacticity index value mmmm is less than 0.1 when the polymerization temperatures have 20 °C difference. In view the little changes observed when polymerization temperatures changes from 30 °C to 50 °C, one would have expected there should be little changes in  $T_m$  and mmmm when Okumura's polymerizations are conducted at higher temperatures such as at less than 90°C to more than 100°C.

Once a product appearing to be substantially identical is found and a 35 USC 102/103 rejection made, the burden of proof is shifted to the applicant to show an unobvious difference. In re Fitzgerald, 205 USPQ 594. In re Fessmann, 180 USPQ 324. Applicants have not met their burden to demonstrate an unobvious difference between the claimed product and the products of the prior art examples.

12. Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (US 6,121,182).

Okumura's teaching is relied upon as shown above. Therefore, it would have been obvious to a skilled artisan at the time the invention was made to employ


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Okumura's teaching to prepare the isotactic polypropylene with a average weight molecular weight of at least 100,000 at temperature of at least 110°C because such is within the scope of the reference's disclosure and all of the embodiments of the reference are expected to work and in the absence of any showing of criticality and unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.

  
Caixia Lu, Ph. D.  
Primary Examiner  
Art Unit 1713  
January 13, 2005